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JUL 30 2012
53-0187
TN. DIV. OF
AIR POLLUTION CONTROL

2012 JUL 23 PM 2:15

RECEIVED

July 20, 2012

Mr. John A. Trimmer, Chief
State of Tennessee
Department of Environment and Conservation
Division of Air Pollution Control
9th Floor, L&C Annex
401 Church Street
Nashville, TN 37243-1531

CERTIFIED MAIL
Return Receipt Requested
7011 1570 0000 4274 0687

Re: Air Construction Permit Application - Wampler's Farm Sausage Company

Dear Mr. Trimmer:

Proton Power, Inc. is submitting the enclosed air construction permit application on behalf of Wampler's Farm Sausage Company. We have included the permit application fee of \$500 which is based on estimated maximum emission rates.

Should you have any questions, or need additional information, please do not hesitate to contact me at 865-312-3859.

Sincerely,

A handwritten signature in cursive script, appearing to read "Sally Almond", written over a horizontal line.

Sally Almond, P.E.
Chemical Engineer/EHS Manager

2012 JUL 23 PM 2:15



**Air Quality Construction Permit Application
Wampler's Farm Sausage Company
Lenior City, Tennessee
July 2012**

RECEIVED

1.0 Background

Wampler's Farm Sausage Company is located in the Eaton Cross Roads Community of Lenior City, Tennessee. This family owned business originally began in the 1930's as a slaughter house. To date it remains a family owned business providing high-quality sausage and other products throughout most of the United States.

2.0 Project Description

Wampler's plans to install three generator sets to produce electricity for use at their operation in Lenior City, Tennessee. The genset(s) will be powered by hydrogen rich fuel produced by the technology developed by Proton Power, Inc. (PPI). PPI's technology converts cellulose or carbonaceous material to hydrogen power (CHyP) via fast pyrolysis. Installation of this equipment will represent the first system of this kind using PPI technology. Energy produced by this process will allow Wampler's to operate their facility with a renewable, cleaner¹, carbon-neutral, energy source.

The Wampler energy center will consist of the following unit operations:

- Biomass handling, processing, transfer system, and feed hoppers with associated dust and particulate control equipment
- 3 - CHyP units to produce high hydrogen gas
- 3 - Generator sets - 228 kW each with associated pollution control equipment
- Process control equipment
- Biochar collection, packaging, and handling system with associated dust and particulate control equipment

A process flow diagram is included as Figure 1.

The biomass intended for fuel production is switchgrass which is available locally and other wood based material such as, but not limited to, sawdust, wood pieces, or wood pallets. The biomass will be received at the Wampler site, unloaded, pre-processed (if needed) in a tub grinder, placed into a temporary storage area, belt conveyed to a hammer mill for size reduction, air conveyed to a receiving hopper, then conveyed to the CHyP system feed hopper for conditioning with water prior to introduction into the CHyP unit. Cartridge type filter

baghouses will be used to control dust and particulate emissions from the temporary storage area, tub grinder, and air conveying operation.

Each CHyP unit will be designed to provide enough CHyP gas to produce 228kW of energy output. This will require approximately 24,150 pounds per day of biomass. Each genset will be equipped with emissions control equipment designed to meet applicable exhaust emission limits. The gensets selected for this project are manufactured by Caterpillar. The engines will be modified by PPI engineers at their manufacturing facility to operate on CHyP gas prior to delivery and installation at Wampler's.

Process control equipment includes automated analytical equipment to analyze the quality of CHyP gas produced and measure the exhaust gas emissions from the generator engine.

Biochar is a solid byproduct of the pyrolysis process. Much of the organically bound carbon is sequestered as inorganic carbon in this solid residue. Other inorganic compounds such as, but not limited to, nitrogen, sulfur, potassium, calcium also accumulate in the biochar. This nutrient rich material has a beneficial use as a soil conditioner/amendment. Wampler plans to collect the biochar for use as a soil amendment. The collection system will consist of an enclosed conveyor to a bagging system. Dust emissions will be controlled by a dust collector.

2.0 Description and Quantification of Air Emissions

2.2 Raw Material Handling Process

The carbonaceous feedstock used to generate the CHyP gas will be switchgrass or some type of wood product such as but not limited to sawdust, wooden pallets, etc... In order to produce 228 kW (maximum) from each genset approximately 24,150 pounds of feedstock per day will be required. Feedstock will arrive at the site either as loose material, baled, or solid wood pieces. Baled material and wood may be stored on-site or temporarily stored in truck trailers. Loose material will be unloaded into a covered temporary storage area. Some of the material received will be processed to a silage in a tub grinder then discharged into the temporary storage area. Dust and particulate matter will be generated from the tub grinding and discharge. A filter pack jet pulse type baghouse will be used to control emissions. This baghouse is sized for 3100 cfm with an air-to-cloth ratio of 8. Automated cleaning is controlled by a pre-set pressure drop. From the temporary storage area the material will be transported by a belt conveyor to a hammer mill for size reduction then air conveyed to the large feed hopper. A similar baghouse will be mounted atop the feed hopper to control emissions from the air conveying system. This baghouse is sized for 3100 cfm with an air-to-cloth ratio of 12. The dust collected will be added to the feedstock and used in the CHyP unit. Clean air from the baghouse will be discharged to the atmosphere. Feedstock will be transported in an enclosed screw conveyor to the CHyP units where it will be conditioned with water prior to entering the reactor vessel.

2.2.1 Raw Material Handling Emissions

The only pollutant generated from the material handling processes is particulate matter.

Since there are not any emission factors available for switchgrass, AP-42 emission factor for Alfalfa Dehydration (Chapter 9.9.4) is used for the tub grinding and discharge to the storage bin. The emission factor for Alfalfa Dehydration for a single-pass dryer cyclone is 4.1 lb PM/ton filterable, 0.65 lb PM/ton condensable (AP-42, Table 9.9.4-1). For the hammer mill and air conveying operation an emission factor for Particle Board Manufacturing emission factor of 3.4 lb PM/ton (AP-42, Table 10.6.2-1) is used.

- Tub grinder processing
 - The amount of material needed to operate all three CHyP systems for 24 hours is:
1 kg feed produces approximately 1.5 kW-hr of energy
 $(1 \text{ kg}/1.5 \text{ kW-hr}) \times 24 \text{ hrs/day} \times 228 \text{ kW} \times 3 = 24,127 \text{ lbs/day}$
 - Assume 50% of the feed goes through the tub grinder and is discharged to storage area
 - $24,127 \text{ lbs/day} \times 1 \text{ ton}/2000 \text{ lbs} \times 0.50 \times 4.75 \text{ lb PM/ton} = 28.65 \text{ lb/day}$
- Hammer mill to feed hopper
 - $24,127 \text{ lbs/day} \times 1 \text{ ton}/2000 \text{ lbs} \times 0.50 \times 3.4 \text{ lb PM/ton} = 20.51 \text{ lb/day}$
- Total uncontrolled particulate emissions
 $28.65 \text{ lb PM/day} + 20.51 \text{ lb PM/day} = 49.16 \text{ lb PM/day} (2.05 \text{ lb PM/hr})$

2.3 CHyP Unit

Feedstock used in the CHyP unit at the Wampler facility will be agricultural based or forestry based products. The gas produced by the CHyP unit will be frequently analyzed by an automated system. The analysis performed will quantify components of the CHyP gas (H_2 , CO , CO_2 , CH_4). The information will be accessible to operators and PPI engineer's. This information will be used for quality control purposes.

2.3.1 CHyP gas emissions

There may be occasion when CHyP gas is flared, although this will likely be limited to a startup, shutdown or malfunction. The CHyP unit is equipped with an emergency vent to release CHyP to the atmosphere should an emergency occur.

Emissions from flaring the CHyP gas consist of partially combusted and combusted components of the gas. Since the genset exhaust gas emissions are greater than emissions from flaring the CHyP gas, facility emissions estimates are based on continuous operation of the gensets.

2.4 Generator Sets

Each generator set consists of an engine and a generator that are mounted together as a single unit. The primary function of the set is to convert mechanical energy from the engine into electrical energy. Each genset will be permanently located at the Wampler energy center and capable of running on CHyP gas. An alternative source of fuel or backup fuel will not be utilized.

Electric power is available through the grid should it be necessary. The gensets will be equipped with Woodward gas control system to ensure proper air-to-fuel ratio, and optimum ignition. The system is designed for lean-burn gas engines where the energy quality of the fuel supply is variable. Emissions control equipment such as but not limited to, a catalytic converter/oxidizer will be installed in the exhaust gas stream to reduce emissions of NO_x, CO and hydrocarbons. Exhaust gas emission measurements will be collected by an automated system for the purpose of providing real-time data to PPI. This data will verify the performance of the control device and demonstrate compliance with emission limits.

2.4.1 Exhaust Gas Emissions

Based on analytical testing performed on the CHyP gas no halides, hydrogen sulfide, sulfur dioxide, or ammonia compounds have been detected. Uncontrolled emissions from the combustion of CHyP gas in the genset are limited to unburned fuel (H₂, CO, CH₄), NO_x, CO₂, water, and VOC's (hydrocarbons). Each genset will be equipped with an emissions control device designed to meet emissions limits set forth in New Source Performance Standards established in under 40 CFR Part JJJJ Table 1 (attachment 1) for non-emergency natural gas.

Currently there are no emissions factors for synthetic or pyrolysis gas. For emissions estimating purposes AP-42 Chapter 3.2 Natural Gas-fired Reciprocating Engines, Table 3.2-1 emission factors are used to estimate CO, VOCs, PM, NO_x, and CH₄. Since CHyP gas contains only about 10% methane, the emission factor in AP-42 for methane (1.45 lb/mmBtu) is reduced by 50% (0.725 lb/mmBtu). The emission factor for sulfur dioxide is considered negligible based on testing the CHyP gas. Table 2 below summarizes combustion emissions.

Table 1 - Exhaust CHyP Gas Emissions Estimates

Pollutant	Emission Factor (lb/mmBtu)	Uncontrolled Emissions - 24 hour day, 365 day			
		228 kW		Total 3 - 228 kW	
		Lbs/hr	Tons/yr	Lbs/hr	Tons/yr
NO _x	3.17	2.5	10.95	7.5	32.85
CO	0.386	0.30	1.31	0.90	3.94
VOC	0.120	0.09	0.39	0.27	1.18
CH ₄	0.725	0.565	2.47	1.69	7.42
PM ₁₀	0.0384	0.03	0.13	0.09	0.39
PM _{2.5}	0.0384	0.03	0.13	0.09	0.39

2.4.1.1 CO₂ Emissions

Clean cellulosic biomass is considered a traditional fuel by EPA definition along with other such traditional fuels: coal, natural gas, refinery gas, oil petroleum coke. Plant based bioorganic feedstocks are at least carbon neutral since the feedstock has taken CO₂ out of the atmosphere and returned a portion of it in the CHyP gas production. The majority of the carbon is sequestered in the biochar.

2.5 Biochar

Biochar is the carbon rich product produced when organic based material thermally decomposes. Land applying biochar has proven beneficial as a means of improving soil

productivity, carbon storage (sequestration), and or filtration of percolating soil water. Analytical testing has been performed on biochar produced from various feedstocks. The higher the pyrolysis temperature the higher the carbon content. Based on the operating temperature for Wampler's CHyP units, the carbon content will typically be near 90% by weight.

Wampler's plans to collect biochar from the CHyP units and use it as a soil amendment. When biochar is land applied it is carbon negative because a substantial portion of the carbon is held in the soil. This results in a net reduction of CO₂ in the atmosphere.

Biochar is a black, light-weight, fine material. From the CHyP unit the biochar will be conveyed by a screw auger to a bagging system. Dust or particulate matter generated from the bagging system will be controlled by 2500 cfm cartridge type jet pulse dust collector.

2.5.1 Biochar Particulate Emissions

The amount of biochar produced during pyrolysis ranges from 2% to 8% by weight of feedstock. For air emissions estimating 8% is used. For air emission estimating AP-42 Chapter 10.7 for charcoal briquetting is used. Briquetting involves handling raw charcoal material, crushing and mixing. Uncontrolled emissions are estimated below:

Biomass Feed rate = 24,127 lbs/day (12.06 tons/day)

12.06 tons feed/day X 0.08 biochar produced/feed X 56 lbs PM/ton = 54.03 lb PM/day

2.6 Summary of Air Emissions (Potential to Emit)

The table below summaries air emissions from the Wampler energy center. Emissions are based on operating all three gensets 24 hours per day, 365 days per year.

Table 2 - Total Estimated Air Emissions (uncontrolled)

Pollutant	Material Handling		3 - 228 kW Gensets		Total PTE - No Control	
	Lbs/hr	Tons/yr	Lbs/hr	Tons/yr	Lbs/hr	Tons/yr
NO _x			7.5	32.85	7.5	32.85
CO			0.96	4.20	0.96	4.20
VOC			0.27	1.18	0.27	1.18
CH ₄			1.69	7.40	1.69	7.40
PM ₁₀	1.87	8.19	0.09	0.39	1.96	8.58
PM _{2.5}	1.87	8.19	0.09	0.39	1.96	8.58
PM (biochar)	2.25	9.86			2.25	9.86
PM (mat)	2.05	8.98			2.05	8.98
Total					18.64	81.63

3.0 Regulatory Review

3.1 Title V

The Wampler's facility currently does not have any permitted air sources. The facility does not have the potential to emit pollutants in a quantity that would classify it as a major source, therefore facility is considered an area source.

3.2 Mandatory Greenhouse Gas Reporting 40 CFR Part 98

GHG reporting requirements apply to facilities that contain source categories listed in 40 CFR Part 98, or have maximum rated heat input capacity of 30 mmBtu/hr or greater and emits 25,000 metric tons of CO₂e.

Emission factors given for calculating CO₂ emissions are for traditional fuels or processes that are not similar to PPI's technology. PPI will use data from actual operations and testing to develop an emission factor for CO₂. Calculation of CO₂ will be based on the emission factor, actual CHyP fuel usage, and will consider the amount of CO₂ that has been taken out of the atmosphere by the plant.

3.3 Federal New Source Performance Standards - 40 CFR Part 60 Subpart JJJJ

This rule applies to stationary spark ignited internal combustion engines (SI ICE). These regulations address stationary engines that are fueled with gasoline, natural gas, propane, and biogas. Presently there are no regulations that address emissions generated from pyrolysis gas. EPA plans to impose emissions limits set for methane fueled engines on those engines fueled by CHyP gas. The purpose of the NSPS regulations is to limit NO_x, CO and VOC emitted from new stationary SI ICE.

The gensets to be installed at the Wampler's facility meet the definition of a stationary spark ignited internal combustion engine. Emissions testing will be conducted on the engines to verify compliance with NSPS limits.

3.4 Federal National Emission Standards for Hazardous Air Pollutants - 40 CFR Part 63 Subpart ZZZZ

This rule applies to owners or operators of stationary reciprocating internal combustion engines (RICE) at a major or area source of HAP emissions. This rule requires that new RICE located at area sources subject to 40 CFR Part 60 Subpart JJJJ must meet NSPS requirements.

3.5 Federal Engine Test Procedures - 40 CFR Part 1065

Stationary engines are subject to engine testing. Testing is conducted to measure emissions and may be performed in a laboratory environment or in the field. PPI will utilize a certified lab to conduct this testing in accordance with the procedures in the rule. This testing will be performed prior to installing the gensets at the Wampler's facility.

3.6 Tennessee Air Quality Regulations

Tennessee air quality regulations were reviewed to determine applicability to the Wampler's energy facility. The Wampler's site is located in Loudon County which has been designed as non-attainment for PM_{2.5}. The facility is not considered a major stationary sources under Title V regulations or under NSR rules. PM_{2.5} precursors include NO_x, SO₂, ammonia and VOC's. Based on analytical testing conducted on CHyP gas SO₂ and ammonia are considered negligible; hydrocarbon's (VOC's) and methane account for less than 10% of the gas composition. Nitrogen oxides will be controlled to the limits set forth in NSPS regulations for SI ICE. Engine testing will include testing for particulate matter.

Tennessee Construction and Operating Permits rule addresses growth in nonattainment areas. Specifically it addresses pollution control measures that would prevent further deterioration of air quality in the area. The section is applicable to major stationary sources and major modifications located in nonattainment areas. The activities proposed at the Wampler facility do not qualify as a major source or a major modification, therefore this section does not apply.

Wampler's plans to install pollution control equipment for exhaust gas and particulate matter emissions and does not anticipate further deterioration of air quality as a result of their project.

3.6.1 Visible Emission Regulation (1200-03-05)

The general standard for opacity will apply to the Wampler facility. This standard prohibits a discharge of a visible emission from any air contaminant source with an opacity in excess of twenty (20) percent for an aggregate of more than five (5) minutes in any one (1) hour or more than twenty (20) minutes in any twenty-four (24) hour period.

3.6.2 Non-Process Emission Standards (1200-03-06)

The allowable particulate emissions, E, from fuel burning equipment is:

$E = 0.600 \text{ lb/mmBtu}$ for $Q \leq 10 \text{ mmBtu/hr}$ (3000 kW), where Q is the total installation heat input

Allowable emission for the 3 - 228 kW genset (2.33 mmBtu/hr):

$$E = 0.6 \text{ lb/mmBtu} \times 2.33 \text{ mmBtu/hr} = 1.4 \text{ lb/hr}$$

Estimated particulate emissions (uncontrolled) from the gensets is 0.2 lb/hr.

3.6.3 Non-process Gaseous Emissions (1200-03-06-.03)

For gaseous air contaminants source must utilize the best equipment and technology currently available for control. Each genset will be equipped with a catalytic device to control exhaust gas emissions.

3.6.4 Process Emissions Standards (1200-03-07)

For new processes particulate emission limits are found in 1200-03-07-.03 Table 2. PM limits are based on the following equation where P is the process weight rate:

$$E=3.59P^{0.62}$$

The allowable emissions rate from Table 2 for the biomass feed system, based on operating the 3 - 228 kW genset (1 kg biomass produces 1.5 kW-hr), with a feed rate of 1005.3 lb/hr is:

$$E = 3.59 * (0.503 \text{ T/hr})^{0.62} = 2.34 \text{ lb/hr}$$

Estimated particulate emissions from handling and processing feed material is: 2.05 lb/hr

3.6.5 Fugitive Dust (1200-03-08-.01)

Wampler's does not anticipate fugitive dust from their operations. Control of dust from the operation is important for safety reasons because the dust is combustible and the CHyP gas is flammable. All biomass handling systems will be equipped with a dust collection system. The parking lot and unloading area is paved.

3.6.6 Hazardous Air Contaminants (1200-03-11)

Tennessee has designated seven hazardous air contaminants: asbestos, beryllium, mercury, vinyl chloride, benzene, radionuclide's, and inorganic arsenic. Wampler's does not conduct any applicable activities that involve these compounds.

3.6.7 Control of Sulfur Dioxide Emissions 1200-03-14

Wampler's is located in Loudon County. Loudon County is designated as a Class VI country.

For fuel burning equipment 250 mmBtu per hour or less that is located in a Class VI are, sulfur dioxide emissions are limited to 5.0 lb/mmBtu.

For 3 - 228 kW gensets this equates to: 5.0 lb/mmBtu x 2.3 mmBtu/hr = 11.5 lb SO₂/hr

Based on the composition of typical feedstocks and testing conducted, we do not anticipate any sulfur dioxide emissions. This will be verified during engine testing/compliance testing.

Process emissions standards are limited to SO₂ emissions less than 2000 ppm, by volume, dry basis (one hour average), in a Class VI county. PPI does not anticipated any sulfur dioxide process emissions.

3.6.8 Volatile Organic Compounds 1200-03-18

Wampler's does not have any equipment or operations subject to the requirements of this section.

Attachment 1
Table 1 - to Subpart JJJ of Part 60

Engine type and fuel	Maximum engine power	Manufacture date	Emission standards ^a					
			g/HP-hr			ppmvd at 15% O ₂		
			NO _x	CO	VOC ^d	NO _x	CO	VOC ^d
Non-Emergency SI Natural Gas ^b and Non-Emergency SI Lean Burn LPG ^b	100≤HP<500	7/1/2008	2.0	4.0	1.0	160	540	86
		1/1/2011	1.0	2.0	0.7	82	270	60
Non-Emergency SI Lean Burn Natural Gas and LPG	500≤HP<1,350	1/1/2008	2.0	4.0	1.0	160	540	86
		7/1/2010	1.0	2.0	0.7	82	270	60
Non-Emergency SI Natural Gas and Non-Emergency SI Lean Burn LPG (except lean burn 500≤HP<1,350)	HP≥500	7/1/2007	2.0	4.0	1.0	160	540	86
	HP≥500	7/1/2010	1.0	2.0	0.7	82	270	60
Landfill/Digester Gas (except lean burn 500≤HP<1,350)	HP<500	7/1/2008	3.0	5.0	1.0	220	610	80
		1/1/2011	2.0	5.0	1.0	150	610	80
	HP≥500	7/1/2007	3.0	5.0	1.0	220	610	80
		7/1/2010	2.0	5.0	1.0	150	610	80
Landfill/Digester Gas Lean Burn	500≤HP<1,350	1/1/2008	3.0	5.0	1.0	220	610	80
		7/1/2010	2.0	5.0	1.0	150	610	80
Emergency	25<HP<130	1/1/2009	^c 10	387	N/A	N/A	N/A	N/A
	HP≥130		2.0	4.0	1.0	160	540	86

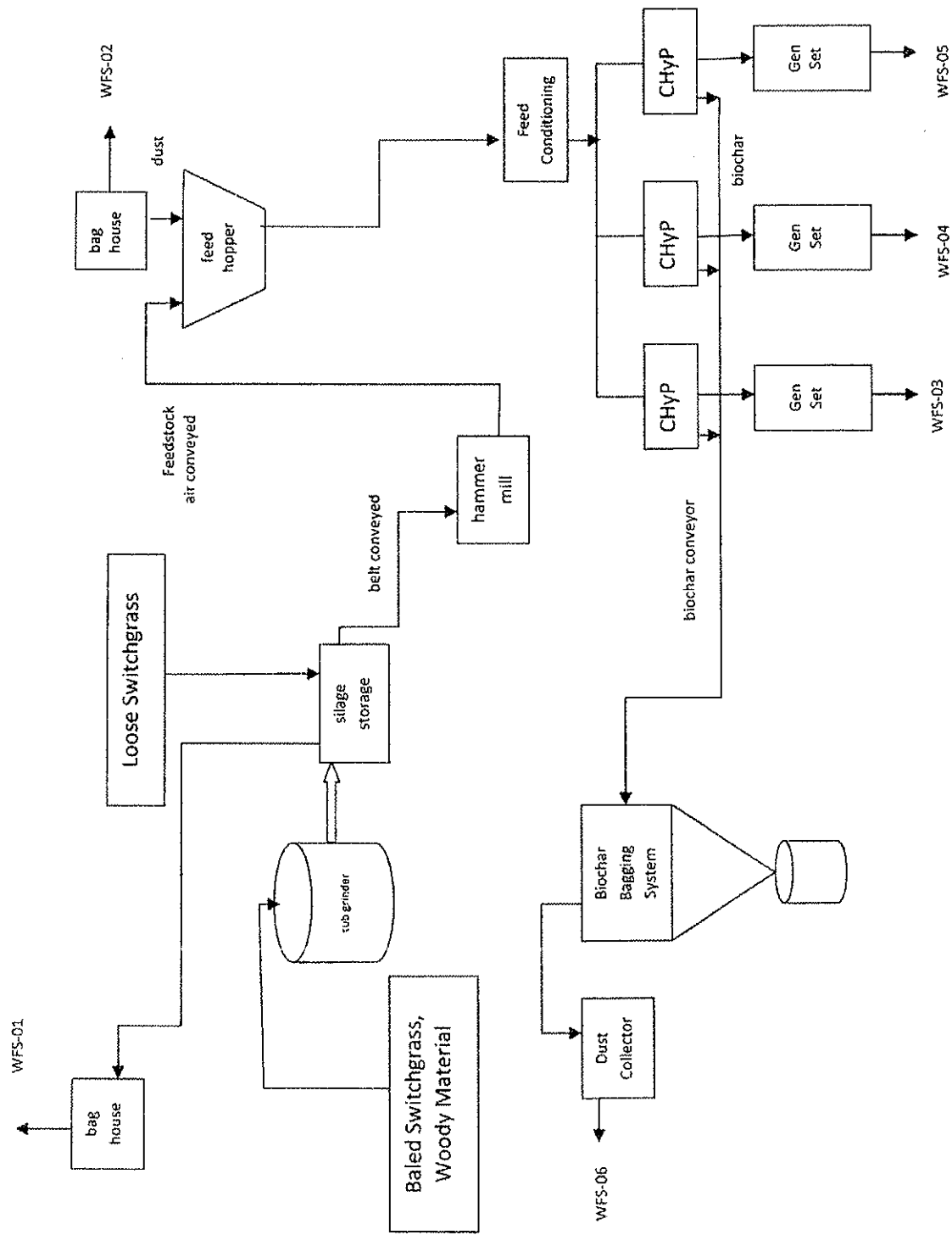


Figure 1 - Wampler's Energy Center - Process Flow Diagram



NOT TO BE USED FOR TITLE V APPLICATIONS

2012 JUL 23 PM 2:16

PERMIT APPLICATION

APC 20

PLEASE TYPE OR PRINT AND SUBMIT IN DUPLICATE FOR EACH EMISSION SOURCE. ATTACH APPROPRIATE SOURCE DESCRIPTION FORMS.

1. ORGANIZATION'S LEGAL NAME Wampler's Farm Sausage Company		/// FOR	APC COMPANY POINTING NO. 53-0187-01
2. MAILING ADDRESS (ST/RD/P.O. BOX) 781 Highway 70 West		/// APC	APC LOG/PERMIT NO. 966398
CITY Lenoir City	STATE Tennessee	ZIP CODE 37771	PHONE WITH AREA CODE 865-986-2056
3. PRINCIPAL TECHNICAL CONTACT Martin Flanary, Plant Manager			PHONE WITH AREA CODE 865-986-2056
4. SITE ADDRESS (ST/RD/HWY) 781 Highway 70 West			COUNTY NAME Loudon
CITY OR DISTANCE TO NEAREST TOWN Approximately 7 miles to Lenoir City		ZIP CODE 37771	PHONE WITH AREA CODE 865-986-2056
5. EMISSION SOURCE NO. (NUMBER WHICH UNIQUELY IDENTIFIES THIS SOURCE) WFS-01, WFS-02, WFS-03, WFS-04, WFS-05, WFS-06		PERMIT RENEWAL YES () NO (x)	
6. BRIEF DESCRIPTION OF EMISSION SOURCE			

Wampler's plans to construct an energy center that will utilize Proton Power, Inc. CHyP technology to produce electricity for use at their facility. Three 228 kW generator sets will be powered by CHyP gas produced by three separate CHyP units. The CHyP units will convert biomass in the form of switchgrass or wood based material to a hydrogen rich fuel via fast pyrolysis. A material handling system consisting of unloading, temporary storage, grinding, conveying and conditioning will be installed at the site. Biochar produced from the pyrolysis process will be collected, containerized and used as a soil amendment. Air pollution control equipment will include catalyst control for the generator engine exhaust and fabric filter baghouse(s) to control dust and particulate emissions from material handling equipment.

7. TYPE OF PERMIT REQUESTED				
CONSTRUCTION (x)	STARTING DATE Oct 29, 2012	COMPLETION DATE Dec 5, 2012	LAST PERMIT NUMBER N/A	EMISSION SOURCE REFERENCE NUMBER WFS-01, WFS-02, WFS-03, WFS-04, WFS-05
OPERATING ()	DATE CONSTRUCTION STARTED	DATE COMPLETED	LAST PERMIT NUMBER	EMISSION SOURCE REFERENCE NUMBER
LOCATION TRANSFER ()	TRANSFER DATE		LAST PERMIT NUMBER	EMISSION SOURCE REFERENCE NUMBER
ADDRESS OF LAST LOCATION				

8. DESCRIBE CHANGES THAT HAVE BEEN MADE TO THIS EQUIPMENT OR OPERATION SINCE THE LAST CONSTRUCTION OR OPERATING PERMIT APPLICATION.

9. SIGNATURE (APPLICATION MUST BE SIGNED BEFORE IT WILL BE PROCESSED) 		DATE 2012-07-19
10. SIGNER'S NAME (TYPE OR PRINT) Ted Wampler, Jr.	TITLE President and COO	PHONE WITH AREA CODE 865-986-2056

TABLE OF POLLUTION REDUCTION DEVICE OR METHOD CODES
(ALPHABETICAL LISTING)

NOTE: FOR CYCLONES, SETTLING CHAMBERS, WET SCRUBBERS, AND ELECTROSTATIC PRECIPITATORS. THE EFFICIENCY RANGES CORRESPOND TO THE FOLLOWING PERCENTAGES:

HIGH: 95-99+%, MEDIUM: 80-95%, AND LOW: LESS THAN 80%.

IF THE SYSTEM HAS SEVERAL PIECES OF CONNECTED CONTROL EQUIPMENT, INDICATE THE SEQUENCE, FOR EXAMPLE: 008*010.97%.

IF NONE OF THE BELOW CODES FIT, USE 999 AS A CODE FOR OTHER AND SPECIFY IN THE COMMENTS.

NO EQUIPMENT.....	000	LIMESTONE INJECTION--DRY.....	041
ACTIVATED CARBON ADSORPTION.....	048	LIMESTONE INJECTION--WET.....	042
AFTERBURNER--DIRECT FLAME.....	021	LIQUID FILTRATION SYSTEM.....	049
AFTERBURNER--DIRECT FLAME WITH HEAT EXCHANGER.....	022	MIST ELIMINATOR--HIGH VELOCITY.....	014
AFTERBURNER--CATALYTIC.....	019	MIST ELIMINATOR--LOW VELOCITY.....	015
AFTERBURNER--CATALYTIC WITH HEAT EXCHANGER.....	020	PROCESS CHANGE.....	046
ALKALIZED ALUMINA.....	040	PROCESS ENCLOSED.....	054
CATALYTIC OXIDATION--FLUE GAS DESULFURIZATION.....	039	PROCESS GAS RECOVERY.....	060
CYCLONE--HIGH EFFICIENCY.....	007	SETTLING CHAMBER--HIGH EFFICIENCY.....	004
CYCLONE--MEDIUM EFFICIENCY.....	008	SETTLING CHAMBER--MEDIUM EFFICIENCY.....	005
CYCLONE--LOW EFFICIENCY.....	009	SETTLING CHAMBER--LOW EFFICIENCY.....	006
DUST SUPPRESSION BY CHEMICAL STABILIZERS		SPRAY TOWER (GASEOUS CONTROL ONLY).....	052
OR WETTING AGENTS.....	062	SULFURIC ACID PLANT--CONTACT PROCESS.....	043
ELECTROSTATIC PRECIPITATOR--HIGH EFFICIENCY.....	010	SULFURIC ACID PLANT--DOUBLE CONTACT PROCESS.....	044
ELECTROSTATIC PRECIPITATOR--MEDIUM EFFICIENCY.....	011	SULFUR PLANT.....	045
ELECTROSTATIC PRECIPITATOR--LOW EFFICIENCY.....	012	VAPOR RECOVERY SYSTEM (INCLUDING CONDENSERS,	
FABRIC FILTER--HIGH TEMPERATURE.....	016	HOODING AND OTHER ENCLOSURES).....	047
FABRIC FILTER--MEDIUM TEMPERATURE.....	017	VENTURI SCRUBBER (GASEOUS CONTROL ONLY).....	053
FABRIC FILTER--LOW TEMPERATURE.....	018	WET SCRUBBER--HIGH EFFICIENCY.....	001
FABRIC FILTER--METAL SCREENS (COTTON GINS).....	059	WET SCRUBBER--MEDIUM EFFICIENCY.....	002
FLARING.....	023	WET SCRUBBER--LOW EFFICIENCY.....	003
GAS ADSORPTION COLUMN--PACKED.....	050	WET SUPPRESSION BY WATER SPRAYS.....	061
GAS ADSORPTION COLUMN--TRAY TYPE.....	051		
GAS SCRUBBER (GENERAL: NOT CLASSIFIED).....	013		

TABLE OF EMISSION ESTIMATION METHOD CODES

NOT APPLICABLE EMISSIONS ARE KNOWN TO BE ZERO.....	0
EMISSIONS BASED ON SOURCE TESTING.....	1
EMISSIONS BASED ON MATERIAL BALANCE USING ENGINEERING EXPERTISE AND KNOWLEDGE OF PROCESS.....	2
EMISSIONS CALCULATED USING EMISSION FACTORS FROM EPA PUBLICATION NO. AP-42 COMPILATION OF	
AIR POLLUTANT EMISSIONS FACTORS.....	3
JUDGEMENT.....	4
EMISSIONS CALCULATED USING A SPECIAL EMISSION FACTOR DIFFERING FROM THAT IN AP-42.....	5
OTHER (SPECIFY IN COMMENTS).....	6



TN. DIV. OF
AIR POLLUTION CONTROL

9th Floor, L & C Annex
401 Church Street
Nashville, TN 37243-1531
Telephone: (615) 532-0554
FAX: (615) 532-0614

NOT TO BE USED FOR TITLE V APPLICATIONS

2012 JUL 23 PM 2:16

PROCESS OR FUEL BURNING SOURCE DESCRIPTION

APC21(& 24)

PLEASE TYPE OR PRINT, SUBMIT IN DUPLICATE AND ATTACH TO THE PERMIT APPLICATION.

1. ORGANIZATION NAME Wampler's Farm Sausage Company		/// FOR	APC COMPANY-POINT NO.
2. EMISSION SOURCE NO. (AS ON PERMIT APPLICATION) WFS-03, WFS-04, WFS-05	SIC CODE 2013	/// APC	APC PERMIT/LOG NO.

3. DESCRIPTION OF PROCESS OR FUEL BURNING UNIT

3 - 228 kW each Generator Set

4. NORMAL OPERATION: →	HOURS/DAY 25	DAYS/WEEK 7	WEEKS/YEAR 52	DAYS/YEAR 365
5. PERCENT ANNUAL THROUGHPUT: →	DEC.-FEB. 25%	MARCH-MAY 25%	JUNE-AUG. 25%	SEPT.-NOV. 25%
6. TYPE OF PERMIT APPLICATION				(CHECK BELOW ONE ONLY)
PROCESS SOURCE: APPLY FOR A SEPARATE PERMIT FOR EACH SOURCE. (CHECK AT RIGHT, AND COMPLETE LINES 7, 8, 13, AND 14).				()
PROCESS SOURCE WITH IN-PROCESS FUEL: PRODUCTS OF COMBUSTION CONTACT MATERIALS HEATED. APPLY FOR A SEPARATE PERMIT FOR EACH SOURCE. (CHECK AT RIGHT, AND COMPLETE LINES 7, 8, AND 10 THROUGH 14)				()
NON-PROCESS FUEL BURNING SOURCE: PRODUCTS OF COMBUSTION DO NOT CONTACT MATERIALS HEATED. COMPLETE THIS FORM FOR EACH BOILER OR FUEL BURNER AND COMPLETE AN EMISSION POINT DESCRIPTION FORM (APC 22) FOR EACH STACK. (CHECK AT RIGHT, AND COMPLETE LINES 9 TO 14)				(x)
7. TYPE OF OPERATION: CONTINUOUS, (x)		BATCH ()	NORMAL BATCH TIME	NORMAL BATCHES/DAY
8. PROCESS MATERIAL INPUTS AND IN-PROCESS SOLID FUELS	DIAGRAM* REFERENCE	INPUT RATES (POUNDS/HOUR) DESIGN ACTUAL		(FOR APC USE ONLY) SCC CODE
A.			/	/
B.			/	/
C.			/	/
D.			/	/
E.			/	/
F.			/	/
G.			/	/
TOTALS			/	/

* A SIMPLE PROCESS FLOW DIAGRAM MUST BE ATTACHED.

(OVER)

9. BOILER OR BURNER DATA: (COMPLETE LINES 9 TO 14 USING A SEPARATE FORM FOR EACH BOILER)

BOILER NUMBER	STACK NUMBER**	TYPE OF FIRING***	RATED BOILER HORSEPOWER	RATED INPUT CAPACITY (10 ⁶ BTU/HR)	OTHER BOILER RATING (SPECIFY CAPACITY AND UNITS)
BOILER SERIAL NO.		DATE CONSTRUCTED	DATE OF LAST MODIFICATION (EXPLAIN IN COMMENTS BELOW).		

** BOILERS WITH A COMMON STACK WILL HAVE THE SAME STACK NUMBER.

*** CYCLONE, SPREADER (WITH OR WITHOUT REINJECTION), PULVERIZED (WET OR DRY BOTTOM, WITH OR WITHOUT REINJECTION), OTHER STOKER (SPECIFY TYPE), HAND FIRED, AUTOMATIC, OR OTHER TYPE (DESCRIBE BELOW IN COMMENTS).

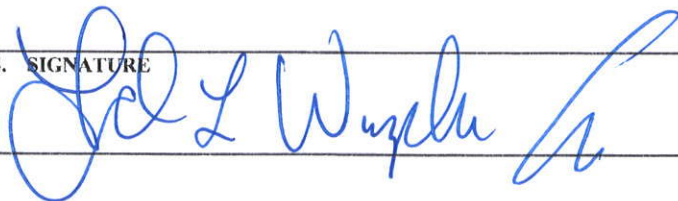
10. FUEL DATA: (COMPLETE FOR A PROCESS SOURCE WITH IN-PROCESS FUEL OR A NON-PROCESS FUEL BURNING SOURCE)

PRIMARY FUEL TYPE (SPECIFY)				STANDBY FUEL TYPE(S) (SPECIFY)				
CHyP Gas								
FUELS USED	ANNUAL USAGE	HOURLY USAGE		% SULFUR	% ASH	BTU VALUE OF FUEL		(FOR APC ONLY) SCC CODE
		DESIGN	AVERAGE					
NATURAL GAS:	10 ⁶ CUFT	CUFT	CUFT	/ / / /	/ /	1,000		
#2 FUEL OIL:	10 ³ GAL	GAL	GAL	/ / / /	/ /			
#5 FUEL OIL:	10 ³ GAL	GAL	GAL	/ / / /	/ /			
#6 FUEL OIL:	10 ³ GAL	GAL	GAL	/ / / /	/ /			
COAL:	TONS	LBS	LBS	/ / / /	/ /			
WOOD:	TONS	LBS	LBS	/ / / /	/ /			
LIQUID PROPANE:	10 ³ GAL	GAL	GAL	/ / / /	/ /	85,000		
OTHER (SPECIFY TYPE & UNITS.): CHyP gas	10 ⁶ CUFT 52.5	6000 cuft				390		

11. IF WOOD IS USED AS A FUEL, SPECIFY TYPES AND ESTIMATE PERCENT BY WEIGHT OF BARK

12. IF WOOD IS USED WITH OTHER FUELS, SPECIFY PERCENT BY WEIGHT OF WOOD CHARGED TO THE BURNER.

13. COMMENTS

14. SIGNATURE 	DATE 2012-07-19
--	--------------------



NOT TO BE USED FOR TITLE V APPLICATIONS

2012 JUL 23 PM 2:15

EMISSION POINT DESCRIPTION

APC 22

PLEASE TYPE OR PRINT AND SUBMIT IN DUPLICATE FOR EACH STACK OR EMISSION POINT.
ATTACH TO THE PERMIT APPLICATION.

RECEIVED

1. ORGANIZATION NAME				///	APC COMPANY POINT NO.
Wampler's Farm Sausage Company				FOR	
2. EMISSION SOURCE NO. (FROM APPLICATION)		FLOW DIAGRAM POINT NUMBER		///	APC SEQUENCE NO.
WFS-01		WFS-01		APC	
3. LOCATION:	LATITUDE	LONGITUDE	UTM VERTICAL	UTM HORIZONTAL	
→	35.835383	-84.321674	199951.19	3970785.65	
4. BRIEF EMISSION POINT DESCRIPTION (ATTACH A SKETCH IF APPROPRIATE):					DISTANCE TO NEAREST PROPERTY LINE (FT)
Feedstock received as baled switchgrass, or wood pieces will be processed for size reduction in a tub grinder. The tub grinder will discharge the material to the temporary storage area. Dust emissions from this process will be controlled with a bag house.					

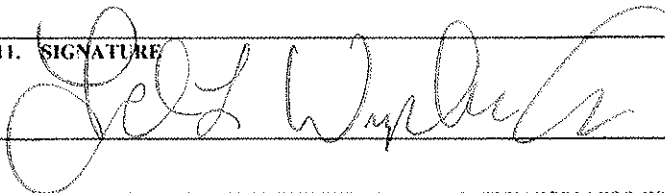
COMPLETE LINES 5 AND 6 IF DIFFERENT FROM THAT ON THE PROCESS OR FUEL BURNING SOURCE DESCRIPTION (APC 21)

5. NORMAL OPERATION:	HOURS/DAY	DAYS/WEEK	WEEK/YEAR	DAYS/YEAR		
→	25	7	52	365		
6. PERCENT ANNUAL THROUGHPUT:	DEC.-FEB.	MARCH-MAY	JUNE-AUG.	SEPT.-NOV.		
→	25	25	25	25		
7. STACK OR EMISSION POINT DATA:	HEIGHT ABOVE GRADE (FT)	DIAMETER (FT)	TEMPERATURE (°F)	% OF TIME OVER 125°F	DIRECTION OF EXIT (UP, DOWN OR HORIZONTAL)	
→	12	0.5	ambient	0	horizontal	
DATA AT EXIT CONDITIONS:	FLOW (ACTUAL FT³/MIN.)	VELOCITY (FT/SEC)	MOISTURE (GRAINS/FT³)	MOISTURE (PERCENT)		
→	3100	260		Approx 15%		
DATA AT STANDARD CONDITIONS:	FLOW (DRY STD. FT³/MIN)	VELOCITY (FT/SEC)	MOISTURE (GRAINS/FT³)	MOISTURE (PERCENT)		
→	2635	224				
8. AIR CONTAMINANTS	ACTUAL EMISSIONS			EMISSIONS* EST.	CONTROL DEVICES*	CONTROL EFFICIENCY%
	EMISSIONS (LBS/HR)		CONCENTRATION	AVG. EMISSIONS (TONS/YR)		
	AVERAGE	MAXIMUM				
PARTICULATES	1.20	1.20	**	5.22	5	95%
SULFUR DIOXIDE			***			
CARBON MONOXIDE			PPM			
ORGANIC COMPOUNDS			PPM			
NITROGEN OXIDES			PPM			
FLUORIDES						
OTHER(SPECIFY)						
OTHER(SPECIFY)						

(OVER)

9. CHECK TYPES OF MONITORING AND RECORDING INSTRUMENTS THAT ARE ATTACHED:OPACITY MONITOR (). SO₂ MONITOR (). NO_x MONITOR (), OTHER (SPECIFY IN COMMENTS) ()**10. COMMENTS**

Final selection of a baghouse may result in some minor changes.

11. SIGNATURE**DATE**

2012-07-19

- * REFER TO THE BACK OF THE PERMIT APPLICATION FORM FOR ESTIMATION METHOD AND CONTROL DEVICE CODES.
- ** EXIT GAS PARTICULATE CONCENTRATION UNITS: PROCESS — GRAINS/DRY STANDARD FT³ (70°F); WOOD FIRED BOILERS — GRAINS/DRY STANDARD FT³ (70°F); ALL OTHER BOILERS — LBS/MILLION BTU HEAT INPUT.
- *** EXIT GAS SULFUR DIOXIDE CONCENTRATIONS UNITS: PROCESS — PPM BY VOLUME, DRY BASES; BOILERS — LBS/MILLION BTU HEAT INPUT.



NOT TO BE USED FOR TITLE V APPLICATIONS

EMISSION POINT DESCRIPTION

2012 JUL 23 PM 2:15

APC 22

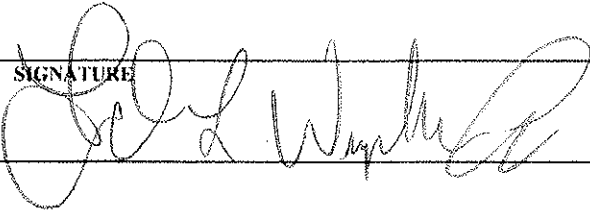
PLEASE TYPE OR PRINT AND SUBMIT IN DUPLICATE FOR EACH STACK OR EMISSION POINT.
ATTACH TO THE PERMIT APPLICATION.

1. ORGANIZATION NAME Wampler's Farm Sausage Company					RECEIVED		APC COMPANY POINT NO.	
2. EMISSION SOURCE NO. (FROM APPLICATION) WFS-02					FLOW DIAGRAM POINT NUMBER WFS-02		APC	
3. LOCATION:		LATITUDE → 35.835383	LONGITUDE -84.321674	UTM VERTICAL 199951.19		UTM HORIZONTAL 3970785.65		
4. BRIEF EMISSION POINT DESCRIPTION (ATTACH A SKETCH IF APPROPRIATE): Feedstock received as baled switchgrass, or wood pieces will be processed for size reduction in a tub grinder. The tub grinder will discharge the material to the temporary storage area. Dust emissions from this process will be controlled with a bag house.							DISTANCE TO NEAREST PROPERTY LINE (FT) 1000	
COMPLETE LINES 5 AND 6 IF DIFFERENT FROM THAT ON THE PROCESS OR FUEL BURNING SOURCE DESCRIPTION (APC 21)								
5. NORMAL OPERATION:		HOURS/DAY → 25	DAYS/WEEK 7	WEEK/YEAR 52		DAYS/YEAR 365		
6. PERCENT ANNUAL THROUGHPUT:		DEC.-FEB. → 25	MARCH-MAY 25	JUNE-AUG. 25		SEPT.-NOV. 25		
7. STACK OR EMISSION POINT DATA:		HEIGHT ABOVE GRADE (FT) → 18	DIAMETER (FT) 0.5	TEMPERATURE (°F) ambient	% OF TIME OVER 125°F 0	DIRECTION OF EXIT (UP, DOWN OR HORIZONTAL) horizontal		
DATA AT EXIT CONDITIONS:		FLOW (ACTUAL FT³/MIN.) → 3100	VELOCITY (FT/SEC) 260	MOISTURE (GRAINS/FT³)		MOISTURE (PERCENT) Approx 15%		
DATA AT STANDARD CONDITIONS:		FLOW (DRY STD. FT³/MIN.) → 2635	VELOCITY (FT/SEC) 224	MOISTURE (GRAINS/FT³)		MOISTURE (PERCENT)		
8. AIR CONTAMINANTS		ACTUAL EMISSIONS				EMISSIONS* EST.	CONTROL DEVICES*	CONTROL EFFICIENCY%
		EMISSIONS (LBS/HR) AVERAGE	MAXIMUM	CONCENTRATION	AVG. EMISSIONS (TONS/YR)			
PARTICULATES		0.85	0.85	**	3.74	5	017	95%
SULFUR DIOXIDE				***				
CARBON MONOXIDE				PPM				
ORGANIC COMPOUNDS				PPM				
NITROGEN OXIDES				PPM				
FLUORIDES								
OTHER(SPECIFY)								
OTHER(SPECIFY)								

(OVER)

9. CHECK TYPES OF MONITORING AND RECORDING INSTRUMENTS THAT ARE ATTACHED:OPACITY MONITOR (), SO₂ MONITOR (), NOX MONITOR (), OTHER (SPECIFY IN COMMENTS) ()**10. COMMENTS**

Final selection of a baghouse may result in some minor changes.

11. SIGNATURE**DATE**

2012-07-19

- * REFER TO THE BACK OF THE PERMIT APPLICATION FORM FOR ESTIMATION METHOD AND CONTROL DEVICE CODES.
- ** EXIT GAS PARTICULATE CONCENTRATION UNITS: PROCESS — GRAINS/DRY STANDARD FT³ (70°F); WOOD FIRED BOILERS — GRAINS/DRY STANDARD FT³ (70°F); ALL OTHER BOILERS — LBS/MILLION BTU HEAT INPUT.
- *** EXIT GAS SULFUR DIOXIDE CONCENTRATIONS UNITS: PROCESS — PPM BY VOLUME, DRY BASES; BOILERS — LBS/MILLION BTU HEAT INPUT.



NOT TO BE USED FOR TITLE V APPLICATIONS

2012 JUL 23 PM 2:15

EMISSION POINT DESCRIPTION

APC 22

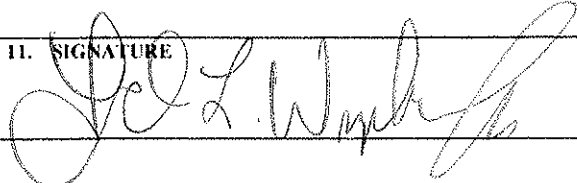
PLEASE TYPE OR PRINT AND SUBMIT IN DUPLICATE FOR EACH STACK OR EMISSION POINT.
ATTACH TO THE PERMIT APPLICATION.

1. ORGANIZATION NAME					APC COMPANY POINT NO.		
Wampler's Farm Sausage Company					FOR		
2. EMISSION SOURCE NO. (FROM APPLICATION)			FLOW DIAGRAM POINT NUMBER		APC SEQUENCE NO.		
WFS-03			WFS-03		APC		
3. LOCATION:	LATITUDE	LONGITUDE	UTM VERTICAL		UTM HORIZONTAL		
→	35.835383	-84.321674	199951.19		3970785.65		
4. BRIEF EMISSION POINT DESCRIPTION (ATTACH A SKETCH IF APPROPRIATE):					DISTANCE TO NEAREST PROPERTY LINE (FT)		
Feedstock received as baled switchgrass, or wood pieces will be processed for size reduction in a tub grinder. The tub grinder will discharge the material to the temporary storage area. Dust emissions from this process will be controlled with a bag house.					1000		
COMPLETE LINES 5 AND 6 IF DIFFERENT FROM THAT ON THE PROCESS OR FUEL BURNING SOURCE DESCRIPTION (APC 21)							
5. NORMAL OPERATION:	HOURS/DAY	DAYS/WEEK	WEEK/YEAR		DAYS/YEAR		
→	25	7	52		365		
6. PERCENT ANNUAL THROUGHPUT:	DEC.-FEB.	MARCH-MAY	JUNE-AUG.		SEPT.-NOV.		
→	25	25	25		25		
7. STACK OR EMISSION POINT DATA:	HEIGHT ABOVE GRADE (FT)	DIAMETER (FT)	TEMPERATURE (°F)	% OF TIME OVER 125°F	DIRECTION OF EXIT (UP, DOWN OR HORIZONTAL.)		
→	9	0.67	700	100	up		
DATA AT EXIT CONDITIONS:	FLOW (ACTUAL FT³/MIN.)	VELOCITY (FT/SEC)	MOISTURE (GRAINS/FT³)		MOISTURE (PERCENT)		
→	3125	148			Approx 35%		
DATA AT STANDARD CONDITIONS:	FLOW (DRY STD. FT³/MIN)	VELOCITY (FT/SEC)	MOISTURE (GRAINS/FT³)		MOISTURE (PERCENT)		
→	2031	96					
8. AIR CONTAMINANTS	ACTUAL EMISSIONS				EMISSIONS* EST.	CONTROL DEVICES*	CONTROL EFFICIENCY%
	EMISSIONS (LBS/HR)	CONCENTRATION	AVG. EMISSIONS (TONS/YR)				
	AVERAGE	MAXIMUM					
PARTICULATES	0.06	0.06	**	0.26	5	999	
SULFUR DIOXIDE	Neg.	Neg.	***	Neg.	5	n/a	
CARBON MONOXIDE	0.30	0.30	PPM	1.31	5	999	
ORGANIC COMPOUNDS	0.09	0.09	PPM	0.39	5	999	
NITROGEN OXIDES	2.5	2.5	PPM	10.95	5	999	
FLUORIDES							
OTHER(SPECIFY) methane	0.565	0.565		2.47	5	999	
OTHER(SPECIFY)							

(OVER)

9. CHECK TYPES OF MONITORING AND RECORDING INSTRUMENTS THAT ARE ATTACHED:OPACITY MONITOR (), SO₂ MONITOR (), NO_x MONITOR (), OTHER (SPECIFY IN COMMENTS) ()**10. COMMENTS**

The control device will likely be some type of catalytic device. Selection will be based on measured emissions and control required to meet regulatory limits.

11. SIGNATURE**DATE**

2012-07-19

* REFER TO THE BACK OF THE PERMIT APPLICATION FORM FOR ESTIMATION METHOD AND CONTROL DEVICE CODES.

** EXIT GAS PARTICULATE CONCENTRATION UNITS: PROCESS — GRAINS/DRY STANDARD FT³ (70°F); WOOD FIRED BOILERS — GRAINS/DRY STANDARD FT³ (70°F); ALL OTHER BOILERS — LBS/MILLION BTU HEAT INPUT.

*** EXIT GAS SULFUR DIOXIDE CONCENTRATIONS UNITS: PROCESS — PPM BY VOLUME, DRY BASES; BOILERS — LBS/MILLION BTU HEAT INPUT.



NOT TO BE USED FOR TITLE V APPLICATIONS

2012 JUL 23 PM 2:16

EMISSION POINT DESCRIPTION

APC 22

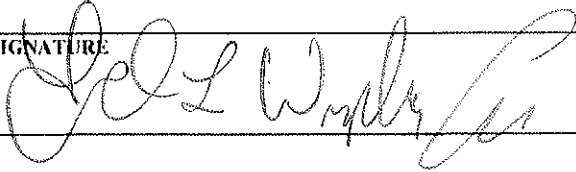
PLEASE TYPE OR PRINT AND SUBMIT IN DUPLICATE FOR EACH STACK OR EMISSION POINT.
ATTACH TO THE PERMIT APPLICATION.

1. ORGANIZATION NAME				APC COMPANY POINT NO.			
Wampler's Farm Sausage Company				FOR			
2. EMISSION SOURCE NO. (FROM APPLICATION)		FLOW DIAGRAM POINT NUMBER		APC SEQUENCE NO.			
WFS-04		WFS-04		APC			
3. LOCATION:	LATITUDE	LONGITUDE	UTM VERTICAL	UTM HORIZONTAL			
→	35.835383	-84.321674	199951.19	3970785.65			
4. BRIEF EMISSION POINT DESCRIPTION (ATTACH A SKETCH IF APPROPRIATE):				DISTANCE TO NEAREST PROPERTY LINE (FT)			
Feedstock received as baled switchgrass, or wood pieces will be processed for size reduction in a tub grinder. The tub grinder will discharge the material to the temporary storage area. Dust emissions from this process will be controlled with a bag house.				1000			
COMPLETE LINES 5 AND 6 IF DIFFERENT FROM THAT ON THE PROCESS OR FUEL BURNING SOURCE DESCRIPTION (APC 21)							
5. NORMAL OPERATION:	HOURS/DAY	DAYS/WEEK	WEEK/YEAR	DAYS/YEAR			
→	25	7	52	365			
6. PERCENT ANNUAL THROUGHPUT:	DEC.-FEB.	MARCH-MAY	JUNE-AUG.	SEPT.-NOV.			
→	25	25	25	25			
7. STACK OR EMISSION POINT DATA:	HEIGHT ABOVE GRADE (FT)	DIAMETER (FT)	TEMPERATURE (°F)	% OF TIME OVER 125°F	DIRECTION OF EXIT (UP, DOWN OR HORIZONTAL)		
→	9	0.67	700	100	up		
DATA AT EXIT CONDITIONS:	FLOW (ACTUAL FT ³ /MIN.)	VELOCITY (FT/SEC)	MOISTURE (GRAINS/FT ³)	MOISTURE (PERCENT)			
→	3125	148		Approx 35%			
DATA AT STANDARD CONDITIONS:	FLOW (DRY STD. FT ³ /MIN)	VELOCITY (FT/SEC)	MOISTURE (GRAINS/FT ³)	MOISTURE (PERCENT)			
→	2031	96					
8. AIR CONTAMINANTS	ACTUAL EMISSIONS				EMISSIONS* EST.	CONTROL DEVICES*	CONTROL EFFICIENCY%
	EMISSIONS (LBS/HR)		CONCENTRATION	AVG. EMISSIONS (TONS/YR)			
	AVERAGE	MAXIMUM					
PARTICULATES	0.06	0.06	**	0.26	5	999	
SULFUR DIOXIDE	Neg.	Neg.	***	Neg.	5	n/a	
CARBON MONOXIDE	0.30	0.30	PPM	1.31	5	999	
ORGANIC COMPOUNDS	0.09	0.09	PPM	0.39	5	999	
NITROGEN OXIDES	2.5	2.5	PPM	10.95	5	999	
FLUORIDES							
OTHER(SPECIFY) methane	0.565	0.565		2.47	5	999	
OTHER(SPECIFY)							

(OVER)

9. CHECK TYPES OF MONITORING AND RECORDING INSTRUMENTS THAT ARE ATTACHED:OPACITY MONITOR (), SO₂ MONITOR (), NOX MONITOR (), OTHER (SPECIFY IN COMMENTS) ()**10. COMMENTS**

The control device will likely be some type of catalytic device. Selection will be based on measured emissions and control required to meet regulatory limits.

11. SIGNATURE**DATE**

2012-07-19

* REFER TO THE BACK OF THE PERMIT APPLICATION FORM FOR ESTIMATION METHOD AND CONTROL DEVICE CODES.

** EXIT GAS PARTICULATE CONCENTRATION UNITS: PROCESS — GRAINS/DRY STANDARD FT³ (70°F); WOOD FIRED BOILERS — GRAINS/DRY STANDARD FT³ (70°F); ALL OTHER BOILERS — LBS/MILLION BTU HEAT INPUT.

*** EXIT GAS SULFUR DIOXIDE CONCENTRATIONS UNITS: PROCESS — PPM BY VOLUME, DRY BASES; BOILERS — LBS/MILLION BTU HEAT INPUT.



NOT TO BE USED FOR TITLE V APPLICATIONS

TN. DIV. OF
AIR POLLUTION CONTROL

EMISSION POINT DESCRIPTION

2012 JUL 23 PM 2:16 APC 22

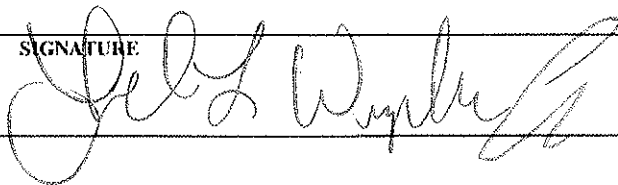
PLEASE TYPE OR PRINT AND SUBMIT IN DUPLICATE FOR EACH STACK OR EMISSION POINT.
ATTACH TO THE PERMIT APPLICATION.

1. ORGANIZATION NAME Wampler's Farm Sausage Company				111	APC COMPANY POINT NO.	
2. EMISSION SOURCE NO. (FROM APPLICATION) WFS-05		FLOW DIAGRAM POINT NUMBER WFS-05		111	APC SEQUENCE NO.	
3. LOCATION:		LATITUDE	LONGITUDE	UTM VERTICAL	UTM HORIZONTAL	
→		35.835383	-84.321674	199951.19	3970785.65	
4. BRIEF EMISSION POINT DESCRIPTION (ATTACH A SKETCH IF APPROPRIATE): Feedstock received as baled switchgrass, or wood pieces will be processed for size reduction in a tub grinder. The tub grinder will discharge the material to the temporary storage area. Dust emissions from this process will be controlled with a bag house.					DISTANCE TO NEAREST PROPERTY LINE (FT) 1000	
COMPLETE LINES 5 AND 6 IF DIFFERENT FROM THAT ON THE PROCESS OR FUEL BURNING SOURCE DESCRIPTION (APC 21)						
5. NORMAL OPERATION:	HOURS/DAY	DAYS/WEEK	WEEK/YEAR		DAYS/YEAR	
→	25	7	52		365	
6. PERCENT ANNUAL THROUGHPUT:	DEC.-FEB.	MARCH-MAY	JUNE-AUG.		SEPT.-NOV.	
→	25	25	25		25	
7. STACK OR EMISSION POINT DATA:	HEIGHT ABOVE GRADE (FT)	DIAMETER (FT)	TEMPERATURE (°F)	% OF TIME OVER 125°F	DIRECTION OF EXIT (UP, DOWN OR HORIZONTAL)	
→	9	0.67	700	100	up	
DATA AT EXIT CONDITIONS:	FLOW (ACTUAL FT ³ /MIN.)	VELOCITY (FT/SEC)	MOISTURE (GRAINS/FT ³)		MOISTURE (PERCENT)	
→	3125	148			Approx 35%	
DATA AT STANDARD CONDITIONS:	FLOW (DRY STD. FT ³ /MIN)	VELOCITY (FT/SEC)	MOISTURE (GRAINS/FT ³)		MOISTURE (PERCENT)	
→	2031	96				
8. AIR CONTAMINANTS	ACTUAL EMISSIONS			EMISSIONS* EST.	CONTROL DEVICES*	CONTROL EFFICIENCY%
	EMISSIONS (LBS/HR)	CONCENTRATION	AVG. EMISSIONS (TONS/YR)			
	AVERAGE	MAXIMUM				
PARTICULATES	0.06	0.06	**	0.26	5	999
SULFUR DIOXIDE	Neg.	Neg.	***	Neg.	5	n/a
CARBON MONOXIDE	0.30	0.30	PPM	1.31	5	999
ORGANIC COMPOUNDS	0.09	0.09	PPM	0.39	5	999
NITROGEN OXIDES	2.5	2.5	PPM	10.95	5	999
FLUORIDES						
OTHER(SPECIFY) methane	0.565	0.565		2.47	5	999
OTHER(SPECIFY)						

(OVER)

9. CHECK TYPES OF MONITORING AND RECORDING INSTRUMENTS THAT ARE ATTACHED:OPACITY MONITOR (), SO₂ MONITOR (), NO_x MONITOR (), OTHER (SPECIFY IN COMMENTS) ()**10. COMMENTS**

The control device will likely be some type of catalytic device. Selection will be based on measured emissions and control required to meet regulatory limits.

11. SIGNATURE**DATE**

2012-07-19

* REFER TO THE BACK OF THE PERMIT APPLICATION FORM FOR ESTIMATION METHOD AND CONTROL DEVICE CODES.

** EXIT GAS PARTICULATE CONCENTRATION UNITS: PROCESS — GRAINS/DRY STANDARD FT³ (70°F); WOOD FIRED BOILERS — GRAINS/DRY STANDARD FT³ (70°F); ALL OTHER BOILERS — LBS/MILLION BTU HEAT INPUT.

*** EXIT GAS SULFUR DIOXIDE CONCENTRATIONS UNITS: PROCESS — PPM BY VOLUME, DRY BASES; BOILERS — LBS/MILLION BTU HEAT INPUT.



NOT TO BE USED FOR TITLE V APPLICATIONS

TN. DM. 01
AIR POLLUTION CONTROL

EMISSION POINT DESCRIPTION

2012 JUL 23 PM 2:16 APC 22

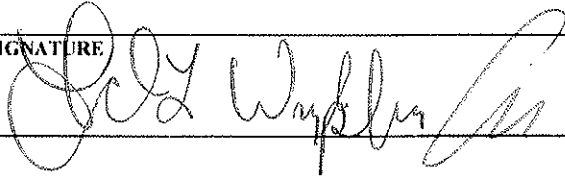
PLEASE TYPE OR PRINT AND SUBMIT IN DUPLICATE FOR EACH STACK OR EMISSION POINT.
ATTACH TO THE PERMIT APPLICATION.

1. ORGANIZATION NAME Wampler's Farm Sausage Company				111	APC COMPANY POINT NO.	
2. EMISSION SOURCE NO. (FROM APPLICATION) WFS-06		FLOW DIAGRAM POINT NUMBER WFS-02		111	APC SEQUENCE NO.	
3. LOCATION:		LATITUDE	LONGITUDE	UTM VERTICAL	UTM HORIZONTAL	
→		35.835383	-84.321674	199951.19	3970785.65	
4. BRIEF EMISSION POINT DESCRIPTION (ATTACH A SKETCH IF APPROPRIATE): Feedstock received as baled switchgrass, or wood pieces will be processed for size reduction in a tub grinder. The tub grinder will discharge the material to the temporary storage area. Dust emissions from this process will be controlled with a bag house.					DISTANCE TO NEAREST PROPERTY LINE (FT) 1000	
COMPLETE LINES 5 AND 6 IF DIFFERENT FROM THAT ON THE PROCESS OR FUEL BURNING SOURCE DESCRIPTION (APC 21)						
5. NORMAL OPERATION:	HOURS/DAY	DAYS/WEEK	WEEK/YEAR		DAYS/YEAR	
→	25	7	52		365	
6. PERCENT ANNUAL THROUGHPUT:	DEC.-FEB.	MARCH-MAY	JUNE-AUG.		SEPT.-NOV.	
→	25	25	25		25	
7. STACK OR EMISSION POINT DATA:	HEIGHT ABOVE GRADE (FT)	DIAMETER (FT)	TEMPERATURE (°F)	% OF TIME OVER 125°F	DIRECTION OF EXIT (UP, DOWN OR HORIZONTAL)	
→	10	0.5	ambient	0	horizontal	
DATA AT EXIT CONDITIONS:	FLOW (ACTUAL FT ³ /MIN.)	VELOCITY (FT/SEC)	MOISTURE (GRAINS/FT ³)		MOISTURE (PERCENT)	
→	2500	210			Approx 15%	
DATA AT STANDARD CONDITIONS:	FLOW (DRY STD. FT ³ /MIN)	VELOCITY (FT/SEC)	MOISTURE (GRAINS/FT ³)		MOISTURE (PERCENT)	
→	2125	180				
8. AIR CONTAMINANTS	ACTUAL EMISSIONS			EMISSIONS* EST.	CONTROL DEVICES*	CONTROL EFFICIENCY%
	EMISSIONS (LBS/HR)	CONCENTRATION	AVG. EMISSIONS (TONS/YR)			
	AVERAGE	MAXIMUM				
PARTICULATES	2.25	2.25	**	9.86	5	017
SULFUR DIOXIDE			***			
CARBON MONOXIDE			PPM			
ORGANIC COMPOUNDS			PPM			
NITROGEN OXIDES			PPM			
FLUORIDES						
OTHER(SPECIFY)						
OTHER(SPECIFY)						

(OVER)

9. CHECK TYPES OF MONITORING AND RECORDING INSTRUMENTS THAT ARE ATTACHED:OPACITY MONITOR (), SO₂ MONITOR (), NO_x MONITOR (), OTHER (SPECIFY IN COMMENTS) ()**10. COMMENTS**

Final selection of a baghouse may result in some minor changes.

11. SIGNATURE**DATE**

2012-07-19

* REFER TO THE BACK OF THE PERMIT APPLICATION FORM FOR ESTIMATION METHOD AND CONTROL DEVICE CODES.

** EXIT GAS PARTICULATE CONCENTRATION UNITS: PROCESS — GRAINS/DRY STANDARD FT³ (70°F); WOOD FIRED BOILERS — GRAINS/DRY STANDARD FT³ (70°F); ALL OTHER BOILERS — LBS/MILLION BTU HEAT INPUT.

*** EXIT GAS SULFUR DIOXIDE CONCENTRATIONS UNITS: PROCESS — PPM BY VOLUME, DRY BASES; BOILERS — LBS/MILLION BTU HEAT INPUT.